

# Solutions: Sampling Checkpoint

## Question 1

When conducting a survey, it is important to use a *random* sample:

- ☐ (a) to get a significant result.
- ☐ (b) to avoid bias and to get a representative sample.
- ☐ (c) so that we can make causal conclusions.
- ☐ (d) to ensure truthful answers to the survey's questions.
- ☐ (e) none of the above.

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Select one answer.  
10 points

**Correct answer: (b)**

## Question 2

In order to obtain a sample of undergraduate students in the United States, a simple random sample of 10 states is selected. From each of the selected states, 10 colleges or universities are chosen at random. Finally, from each of these 100 colleges or universities, a simple random sample of 20 undergraduate students is selected. Thus, the final sample consists of 2,000 undergraduates.

This is an example of:

- ☐ (a) simple random sampling.
- ☐ (b) stratified sampling.
- ☐ (c) multistage sampling.
- ☐ (d) convenience sampling.
- ☐ (e) none of the above.

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Select one answer.  
10 points

**Correct answer: (c)**

## Question 3

*The next three questions refer to the following information:*

The faculty senate at a large university wanted to know what proportion of the students thought foreign language classes should be required for everyone. The statistics department offered to cooperate in conducting a survey, and a simple random sample of 500 students was selected from all the students enrolled in statistics classes. A survey form was sent by email to these 500 students.

In this case, the population of interest is:

- ☐ (a) all the students at the university.
- ☐ (b) all the students enrolled in a statistics class.
- ☐ (c) the 500 students who got the email survey.
- ☐ (d) the students who responded to the email survey.
- ☐ (e) all the students who think that foreign language classes should be required for everyone.

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Select one answer.  
10 points

**Correct answer: (a)**

## Question 4

In this case, the sampling frame is:

- ☐ (a) all the students at the university.
- ☐ (b) all the students enrolled in a statistics class.
- ☐ (c) the 500 students who got the email survey.
- ☐ (d) the students who responded to the email survey.
- ☐ (e) all the students who think that foreign language classes should be required for everyone.

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Select one answer.  
10 points

**Correct answer: (b)**

## Question 5

Which of the following is true about this study?

- ☐ (a) Since the sample is random, it is representative of the population of interest.
- ☐ (b) Even though the sample is random, it is not representative of the population of interest.

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Select one answer.  
10 points

**Correct answer: (b)**

## Question 6

*Ross Times*, the student newspaper of Ross College, printed a "What do you think?" column feature asking: "Do you think that the college is doing enough to provide student parking?" Anyone could mail in a response or use the paper's Web site to respond. In all, 126 answers were received.

This is an example of:

- ☐ (a) a voluntary response sample.
- ☐ (b) a multistage sample.
- ☐ (c) a simple random sample.
- ☐ (d) a convenience sample.
- ☐ (e) the placebo effect.

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Select one answer.  
10 points

**Correct answer: (a)**

## Question 7

Which of the following is an example of stratified sampling?

- ☐ (a) A sample of 351 people called a radio show to express their opinions about the verdict in the Michael Jackson trial.
- ☐ (b) In order to assess students' satisfaction with the food establishment on campus, the first 50 students that come out of the student center were interviewed.
- ☐ (c) A poll asked a random sample of 1,112 adults whether they believe that the use of marijuana for medical reasons should be legalized.
- ☐ (d) A health educator wanted to study the sleeping habits of the undergraduate students in her university. For her study, the researcher chose a simple random sample of size 150 from each of the classes (150 freshmen, 150 sophomores, 150 juniors, and 150 seniors), for a total of 600 sampled students.
- ☐ (e) The human resources department of a large bank wanted to assess the job satisfaction of the bank's workers. The department chose four of the bank's branches at random, and used all of the workers in those four branches as the subjects for the study.

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Select one answer.  
10 points

**Correct answer: (d)**